

## COLLAPSIBLE CONTAINER HOLDER

### FIELD OF THE INVENTION

The present invention relates to container holders for vehicles and, more particularly, to a collapsible container holder operative to be selectably  
5 installed in a vehicle and capable of being stored in a plurality of locations inside the vehicle when disposed in the collapsed position.

### BACKGROUND OF THE INVENTION

It is a well known fact that a driver or passenger in an automobile is somewhat restricted in movement and in some cases has little or no place to  
10 temporarily hold his or her beverage container. Many commercially available auto beverage holders are said to be unsatisfactory as far as the designs for adjustability, stability and more importantly storageability when not in use.

U.S. Patent No. 4,828,211 to McConnell discloses a holder for beverage containers and the like for steadily, but removably and replaceably,  
15 supporting such a beverage container in a vehicle so as to prevent spilling of the contents of the beverage container when the vehicle is moving. The holder is foldable into a relatively compact boxlike configuration so as to protrude minimally from the supporting surface of the vehicle when not in use. It is appreciated that the holder is functionally and commercially advantageous with  
20 respect to storageability in view of many commercially available holders which lack the ability to be compacted for storage in the vehicle thus limiting the number of convenient and/or available spaces for such storage. However, the

holder of the '211 reference requires a complex design to facilitate the disclosed folding characteristic and is operative to be attached to an upstanding supporting surface for use in a vehicle.

5 The present invention overcomes these disadvantages by providing a selectably attachable container holder for a vehicle wherein the holder includes a collapsible feature that facilitates storage in a plurality of convenient locations within the interior of the vehicle when not in use.

#### SUMMARY OF THE INVENTION

10 The present invention provides a collapsible container holder assembly for use in a vehicle. The container holder assembly includes a support or carrier portion adapted to be selectably disposed in the vehicle as desired when needed to support a beverage container of the user. The carrier portion includes at least one retaining member for securing the holder assembly to the floor tray in a stable manner at all times during vehicle mobility. The carrier  
15 portion also includes at least one recessed opening formed therein wherein the openings are dimensioned to receive beverage containers of various sizes therein and operative to support a portion of the beverage container to inhibit tilting or swaying during driving.

20 At least one container receptor portion is provided and is adapted to be telescopically engaged and retained within the at least one opening formed in the carrier portion. Once assembled together with the carrier portion, the at least one container receptor portion is selectably adjustable between extended and collapsed positions relative to the carrier portion.

For use, the container holder assembly is preferably disposed on the floor tray of the vehicle after the at least one container receptor portion is adjusted to the extended position relative to the carrier portion. When not in use, the container holder assembly is adjusted to the collapsed position relative to the carrier portion such that the container holder assembly may be compactly and conveniently stored in a number of locations within the vehicle interior.

#### BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the present invention will be had upon reference to the following detailed description when read in conjunction with the accompanying drawings in which like parts are given like reference numerals and wherein:

Figure 1 is a perspective view of the inventive container holder assembly before and after installation into a floor tray of a vehicle;

Figure 2 is an overhead view of the container holder assembly;

Figure 3 illustrates a front cutaway view of the container holder assembly in an extended position and phantom line collapsed position;

Figure 4A illustrates a two-dimensional view of a retaining arm disposed on an exterior surface of a container receptor portion as according to the invention;

Figure 4B illustrates a first portion of a locking means disposed on an exterior surface of the container receptor portion as according to the invention;

Figure 4C illustrates a complementary portion of the locking means of Figure 4B disposed on the carrier portion of the container holder assembly as according to the invention;

Figure 5A illustrates a perspective front view of the container holder assembly in an extended position as according to the invention;

Figure 5B illustrates a perspective front view of the container holder assembly in a collapsed position to facilitate storage as according to the invention; and

Figure 6 illustrates a bottom view of the container receptor portion of the container holder assembly as according to the invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Concealable container holders for vehicles are particularly useful in motor vehicles where space conservation and aesthetics are prime concerns. When not in use, a storageable container holder can be stashed away in a glove box compartment, under a passenger seat, or in a door panel, thereby freeing the space occupied by the container holder and removing it from the sight of the drivers and passengers. The present invention provides a selectably attachable container holder assembly preferably for use in a floor tray of a vehicle wherein the container holder assembly is compactly adjustable to enhance its storageability in a plurality of convenient locations within the vehicle. Although a preferred embodiment of the container holder assembly is selectably attachable to a vehicle floor tray, it is appreciated that the inventive

holder may be adapted to selectably attach at various locations within a vehicle interior without exceeding the scope of the invention.

With reference to Figure 1, the inventive container holder assembly 10 is illustrated before and after being seated within a floor tray T of a vehicle.

5 The inventive container holder assembly 10 includes a carrier portion 12 having at least one recessed opening 14 formed therein. Preferably, the carrier portion 12 is formed to seat in the floor tray T in a structurally and aesthetically pleasing manner such that the container holder assembly 10 complements the dimensions of the floor tray T.

10 It is appreciated that the size of the recessed openings 14 formed in the carrier portion 12 are dimensioned to receive a plurality of beverage containers of different sizes therein whereby the beverage container will be supported by the recessed opening 14 in a manner that minimizes tipping or tilting of the beverage container during mobility of the vehicle. The recessed openings 14  
15 may be provided is a plurality of cylindrical shapes which illustratively include circular, polygonal, oval and/or elliptical.

The carrier portion 12 includes front 18 and rear 20 sides wherein at least the front side 18 is preferably formed to the contour of the floor tray to enhance its aesthetic appearance when disposed therein. A preferred  
20 embodiment of the carrier portion 12 includes two recessed cylindrical openings 14 such that at least one beverage container for the driver and passenger of a vehicle may be supported in the container holder assembly 10. However, it is appreciated that container holder assembly 10 may be provided

with one or more cylindrical openings without departing from the scope of the invention.

Still referring to Figure 1, at least one container receptor portion 16 is adapted to telescopically engage and be retained within the at least one opening 14 formed in the carrier portion 12. In this manner, the at least one container receptor portion 16 can be adjusted between an extended and collapsed position relative to the carrier portion 12 as desired by the user. Once the at least one container receptor portion 16 is assembled into the carrier portion 12, the container portion 16 may be adjusted to the extended position by pushing downward on the base of the container receptor portion 16 after placing the hand through the at least one opening 14 formed in the carrier portion 12.

Figure 2 illustrates a top view of a preferred embodiment of the container holder assembly 10 having two container receptor portions 16 disposed in two recessed cylindrical openings 14 formed in the carrier portion 12. At the base of each container receptor portion 16 there is illustrated an arrow pointed in a counterclockwise direction. Once the container portions 16 have been adjusted to the extended position, the container portions 16 may be locked in the extended position by turning the container portions 16 in the counterclockwise direction of the arrow. This action causes a locking means formed on the container holder assembly 10 to engage. Accordingly, turning the container portion 16 in a clockwise direction would cause the release of the container portion 16 from the locked position. The mechanisms for the locking

means disposed on the container holder assembly 10 will be described hereinafter.

With reference now to Figure 3, a front cutaway view of the container holder assembly 10 is illustrated wherein the container portions 16 are illustrated in solid line as being in an extended position and in a collapsed position in phantom line within the cylindrical recessed openings 14 of the carrier portion 12. Preferably, the container receptor portion 16 includes at least one retaining arm 26 disposed on an exterior surface thereof. The at least one retaining arm 26 is operative to prevent the container receptor portion 16 from being pushed out from the carrier portion 12 when the container receptor portion 16 is moved to the collapsed position. Figure 4A illustrates a front view of the at least one retaining arm 26 as it is formed on the exterior surface of the container receptor portion 16. As best shown in Figure 5B, the retaining arm 26 operates as a stop against a peripheral edge of the recessed opening 14 to prevent the container portion 16 from being pushed therethrough when moved to the collapsed position. Preferably, the retaining arm 26 is resiliently biased such that it maintains positive contact with the surface of the opening 14 when in the collapsed position.

Figure 3 and 5A further illustrate the container holder assembly 10 in an extended position. Each of the container receptor portions 16 includes a flanged rim 30 which contacts support edges 32 disposed on a portion of an interior surface of the recessed opening 14. The support edges 32 operate to

support a container receptor portion 16 within the recessed opening 14 when the container receptor portions 16 are moved to the extended position.

With reference now to Figures 4B and 4C, a locking means is provided being comprised of a first portion 28 disposed on an exterior surface of the container receptor portion 16 adjacent the flanged rim 30 and a complementary second portion 34 disposed on an interior surface of the recessed cylindrical openings 14 of the carrier portion 12. Figure 4C illustrates the complementary engagement between the first portion 28 and the complementary second portion 34 after the container receptor portion 16 has been rotated in a counterclockwise direction while in the extended position as described above.

Figure 5A is a solid line perspective view of the container holder assembly 10 in the extended position wherein at least one retaining member 22 is formed on the front side 18 of the carrier portion 12. With reference again to Figure 2, an additional retaining member 24 is provided on the rear side 20 of the carrier portion. As according to a preferred embodiment of the container holder assembly 10, the retaining members 22 and 24 are adapted to engage at least one complementary retaining point at the floor tray such that the container holder assembly 10 is selectably fastened to the floor tray to enhance stability during mobility of the vehicle.

Figure 6 illustrates a bottom view of a container receptor portion 16 wherein retaining arms 26 and the first portion 28 of the locking means are disposed on an exterior surface thereof.



Preferably, the components of the collapsible container holder assembly 10 are formed from an injection molding process using an appropriate injection moldable material as known to those skilled in the art. However, it is appreciated that the inventive container holder assembly 10 may be formed by other methods and made of other materials suitable for such purpose.

The foregoing figures and descriptions are provided as illustrative of a preferred embodiment of the inventive collapsible container holder assembly 10 for use in a vehicle having a floor tray. However, it is appreciated that other embodiments may be structured to be selectably attachable to other locations within a vehicle other than the floor tray. It is understood that various changes to the central components and conditions of the apparatus may be resorted to without departing from the spirit of the invention or the scope of the claims as presented.

I claim: